

## **REMARKS**

### **I. STATUS OF THE CLAIMS**

Claims 1, 2, 4, 9, 48, 49 and 55-57 were previously cancelled without prejudice to future prosecution. Claims 26-46, 50, 58 and 60 are withdrawn. Claims 64 and 65 are newly added. Thus, with entry of this amendment, claims 3, 5-8, 10-25, 47, 51-54, 59 and 61-65 are pending.

Applicants thank the Examiner for noting an apparent discrepancy in claim numbering after the Response to Office Action submitted October 15, 2008. *See* current Office Action at page 2, lines 2-3. Original claim 57 was cancelled in the previous response, with the limitation of original claim 57 being incorporated into claim 54. However, due to typographical error, the claim number of cancelled claim 57 was inadvertently accorded to claim 58. Thus, in the previous response, claim numbers 57-62 as shown should have correctly been accorded claim numbers 58-63. By the present amendment, the claims are accorded their proper number and status identifier.

### **II. SUPPORT FOR THE CLAIM AMENDMENTS**

The amendments to claims 3, 10, 11 and 61 are fully supported in the specification and claims as originally filed. For example, support for the deletion of the proviso in Claim 3 may be found in claims 3 and 9 as originally filed. Support for the term “oxo group bound to a carbon atom” in claims 3 and 11 may be found, for example, in Fig. 1, 2, 3 and 5. In claim 10 as amended, E is an olefin conjugated to a carbonyl, nitro, cyano, carboxyl, carboxamide, sulfoxide, sulfonyl, sulfonamide, or sulfonate group, support for which may be found for example at paragraph [0039]. Claim 61 is amended to delete the term “(a).”

Support for new claims 64 and 65 may be found throughout the specification and claims as originally filed, such as claims 3 and 9. In particular, support for the definition of “E” may be found in the specification at, for example, paragraph [0039]:

The electrophilic group E is most preferably one that comprises a carbonyl, an epoxide, or an olefin conjugated to an electron withdrawing group such as a carbonyl, nitro, cyano, carboxyl, carboxamide, sulfoxide, sulfonyl, sulfonamide, or sulfonate. For carbonyl groups, ketonic groups  $-(CH_2)_mCOR'$  and  $-CO(CH_2)_nR'$  are preferred ( $m$  and  $n$  independently are 0 or an integer from 1 to 6 and  $R'$  is hydrogen, halogen, amino, substituted amino, cyano, or

an optionally substituted aliphatic, aromatic or heterocyclic group). Alternatively the ketone may be a diketone  $-C(O)C(O)R'$  where  $R'$  is as defined above. Groups that form "haloketones", such as  $-C(O)Cl$ ,  $-C(O)F$ ,  $-CH_2C(O)Cl$ ,  $-CH_2C(O)F$  (acyl halides),  $C(O)CH_2Cl$ ,  $-C(O)CH_2Br$ ,  $-C(O)CH_2F$ ,  $-C(O)CHF_2$ ,  $-C(Q)CF_3$ , etc. (halomethyl ketones),  $C(O)CH_2CN$  (cyanomethylketone), diketones,  $\alpha$ -heterocyclic substituted ketones ( $-C(O)R'$ , where  $R'$  is a heterocyclic group), and groups that form olefinically unsaturated ketones, such as  $-C(O)CH=CH_2$ , are preferred. Olefin carboxylates have the general formula  $CH=CHC(O)OR_c$ , where  $R_c$  is an optionally substituted aliphatic, aromatic, or heterocyclic moiety. Olefin carboxamides have the general formula  $-CH=C(O)NR''R'''$  where  $R''$  and  $R'''$  are optionally substituted aliphatic, aromatic, or heterocyclic moieties. Epoxides contain from 2 to 4 carbon atoms and include, for example, epoxyethyl, epoxypropyl, and the like. Representative compounds and electrophilic groups of the invention are exemplified in the specification and in Figure 1.

Support for the phrase "halo, hydroxyl, thiol, nitro, amino, substituted amino, amido, substituted amido, alkoxy, haloalkoxy, alkylenedioxy, alkyl, haloalkyl, hydroxyalkyl or sulfonyl" may be found at, for example, paragraph [0043]:

Aliphatic, aromatic and heterocyclic groups in compounds of this invention may be unsubstituted or may have one or more substituents, providing that such substituents do not interfere with the kinase-binding properties of the compounds. Substituents may include, for example, halo, hydroxyl, thiol, nitro, amino, substituted amino, amide, substituted amide, alkoxy, haloalkoxy, alkylenedioxy, alkyl, haloalkyl, hydroxyalkyl, sulfonyl, and the like.

Further support for the olefin carboxylate and olefin carboxamide recited in claims 64 and 65 may be found throughout the specification, at for example paragraph [0039] and Fig. 1.

Therefore, no new matter is added by the present amendment, as the amendments herein are fully supported by the specification and claims as originally filed.

### **III. REJECTION OF CLAIMS 3, 5-8, 10-25, 47, 51-54, 58 AND 60-62 UNDER 35 U.S.C. §112, SECOND PARAGRAPH – INDEFINITENESS**

Claims 3, 5-8, 10-25, 47, 51-54, 59 (claim 58 in Office Action) and 61-63 (claims 60-62 in Office Action) stand rejected under 35 U.S.C. §112, second paragraph, for alleged indefiniteness for failing to particularly point out and distinctly claim the subject matter which

Applicants regards as the invention. *See* Office Action dated January 16, 2009, at page 2, lines 12-14. With respect to the claims as currently presented, Applicants respectfully disagree.

#### **A. The Law Regarding Indefiniteness**

The Examiner bears the initial burden of presenting a *prima facie* case of unpatentability:

The examiner (or the Board, if the Board is the first body to raise a particular ground for rejection) "bears the initial burden . . . of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Insofar as the written description requirement is concerned, that burden is discharged by "presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims." *Wertheim*, 541 F.2d at 263, 191 USPQ at 97.

*See In re Alton*, 37 USPQ2d 1578. The Court of Appeals of the Federal Circuit further states:

Only claims "not amenable to construction" or "insolubly ambiguous" are indefinite. ... Thus, the definiteness of claim terms depends on whether those terms can be given any reasonable meaning.

*See Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005). Thus, a decision as to whether a claim is indefinite under 35 U.S.C. §112 requires a determination as to whether those skilled in the art would understand what is claimed. *See Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624, 225 U.S.P.Q. (BNA) 634, 641 (Fed. Cir. 1985) (Claims must "reasonably apprise those skilled in the art" as to their scope and be "as precise as the subject matter permits.").

Further regarding indefiniteness, the MPEP instructs:

The test for definiteness under 35 U.S.C. 112, second paragraph, is whether 'those skilled in the art would understand what is claimed when the claim is read in light of the specification.'

*See* MPEP §2173.02. Additionally, "[Examiners] should allow claims which define the patentable subject matter with a reasonable degree of particularity and distinctness." *See* MPEP §2173.02 (emphasis in original).

The MPEP further instructs that "[s]ome latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire." *Id.* Furthermore, the MPEP instructs:

If the language used by applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph, rather, the examiner should suggest improved language to the applicant.

See MPEP §2173.02. In addition:

The subject matter of the claim need not be described literally (i.e., using the same terms on *in haec verba*) in order for the disclosure to satisfy the description requirement.

See MPEP §2163.02.

Regarding the legal requirement that the scope of the claims must be read in light of the specification, the Federal Circuit has reiterated that “one skilled in the art would understand all language in the claims when read in light of the specification, as the claims must be.” See *Rosemount, Inc. v. Beckman Instruments, Inc.*, 221 USPQ 1 at 7.

Regarding open-ended claims, the Federal Circuit has held:

Open-ended claims are not inherently improper; as for all claims their appropriateness depends on the particular facts of the invention, the disclosure, and the prior art. They may be supported if there is an inherent, albeit not precisely known, upper limit and the specification enables one of skill in the art to approach that limit.

See *Scripps Clinic & Research Foundation v Genentech Inc.* 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). Regarding the degree of precision required in claims, the MPEP instructs:

The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.

See MPEP §2173.05(b). Indeed, the MPEP makes clear that the patent law does not require all possible variations of a claim element to be included in the claim:

A claim limitation specifying that a certain part of a pediatric wheelchair be “so dimensioned as to be insertable through the space between the doorframe of an automobile and one of the seats” was held to be definite. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1 USPQ2d 1081 (Fed. Cir. 1986). The

court stated that the phrase "so dimensioned" is as accurate as the subject matter permits, noting that the patent law does not require that all possible lengths corresponding to the spaces in hundreds of different automobiles be listed in the patent, let alone that they be listed in the claims.

See MPEP §2173.05(b). Finally, the Board of Patent Appeals and Interferences has recently reiterated that:

Claims are in compliance with 35 U.S.C. §112, second paragraph, if 'the claims, read in light of the specification, reasonably apprise those skill in the art and are as precise as the subject matter permits.' *Hybritech, Inc. v. Monoclonal Antibodies, Inc.* 802 F.2d 1367, 1385 (Fed. Cir. 1987).

See *Ex Parte Hicks and Brookhart*, BPAI Appeal 2007-2715 (November 13, 2007). In this matter, the Board reversed a rejection over the claim term "substituted hydrocarbyl" which term was held to be sufficiently defined in the specification:

The Examiner, however, has not established why the skilled artisan would not understand the metes and bounds of 'substituted hydrocarbyl' in light of the definition provided by the Specification.

See *Ex Parte Hicks and Brookhart*, *Id.*, at page 9.

#### **B. The Rejected Claims as Currently Presented Are Not Indefinite**

The Examiner asserts that the nature of "E" in claim 3 is unclear because the term "'comprises' is open-ended." See Office Action dated January 16, 2009, at page 2, lines 15-19. But, the Federal Circuit has made clear that "open-ended claims are not inherently improper; as for all claims, appropriateness depends upon the particular facts of the invention, disclosure and the prior art." See *Scripps Clinic & Research Foundation v Genentech Inc.*, *Id.* at 1006. Therefore, the mere fact that the term "comprises" appears in the claim is not, in and of itself, sufficient reason to meet the Examiner's burden of establishing that one of ordinary skill would not understand the metes and bounds of the claims.

Applicants respectfully submit that one skilled in the art would understand what is claimed in light of the specification. Specifically, the present application discloses both functional and technical definitions for group E as set forth in claim 3. For example, the specification discloses that group E is capable of forming a covalent bond with a cysteine in the ATP binding site. See for example paragraphs [0008], [0026] and [0029]. The specification

further discloses suitable chemical features of group E. See for example paragraphs [0036] and [0037], Fig. 1, Fig.3 and Fig. 5. Accordingly, the specification and claims as filed reasonably apprise one skilled in the art as to the scope of the claims as precisely as the subject matter permits. The law requires no more. See *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, *Id.*

Regarding the term “carbonyl group” in claim 3, the Examiner asserts that “[a] carbonyl group requires an additional radical because it is the divalent group  $\text{-C(O)-}$ .” See Office Action dated January 16, 2009, at page 2. However, the Examiner has failed to establish that one skilled in the art would not understand the meaning of the term “carbonyl” in this context. In contrast, Applicants respectfully submit that one of skill would immediately understand that a substituent which “comprises a carbonyl group” merely contains the  $\text{-C(O)-}$  functionality. Accordingly, the claims as written are clear.

However, in an effort to expedite prosecution, Applicants have replaced the term “carbonyl” with the term “oxo group bound to a carbon atom.” Accordingly, the specification and claims as filed reasonably apprise those skilled in the art as to the scope of the claims as precisely as the subject matter permits. The law requires no more. See *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, *Id.*

Regarding the nature of the electron withdrawing group in claim 3, the Examiner asserts that “[t]he nature of the electron withdrawing group which is conjugated to the olefin is unclear.” See Office Action dated January 16, 2009, at page 2. However, the Examiner has not provided any evidence indicating that one skilled in the art would not understand this claim term. Applicants respectfully submit that electron withdrawing groups, olefins and chemical conjugations are well known in the art and would be immediately and unambiguously recognized by one of ordinary skill in the art. Specifically, the term “electron withdrawing group” refers to a group which draws electrons away from a chemical center. The term “olefin” refers to an unsaturated aliphatic hydrocarbon. Finally, the term “conjugated” refers to a chemical bond between the olefin and the electron withdrawing groups as is well known in the art. Accordingly, Applicants respectfully submit that the recitation in claim 3 of “an olefin conjugated to an electron withdrawing group” clearly refers to an unsaturated aliphatic hydrocarbon chemically bound to an electron withdrawing group.

The Examiner further asserts, with respect to the olefin conjugated to an electron withdrawing group, that "it is unclear what this looks like." *See* Office Action dated January 16, 2009, at page 2. However, the Examiner has not established that the skilled artisan would not understand the term. Indeed, the claims clearly set forth the requirement that E can be an olefin conjugated to an electron withdrawing group. The claims also provide unambiguous technical terms well known in the art, such as "olefin," "conjugated" and "electron withdrawing group". Moreover, numerous examples are provided in the specification for electron withdrawing groups conjugated to an olefin. Therefore, Applicants respectfully submit that claim 3 fulfills the legal requirement that those skilled in the art would understand what is claimed. *See* MPEP §2173.02. Accordingly, Applicants respectfully request withdrawal of the rejection.

The Examiner further asserts that the claims are indefinite because the claims recite "[t]he term 'substituted' without saying which substituents are intended is indefinite." *See* Office Action dated January 16, 2009, at page 2. Applicants respectfully disagree.

The Board of Patent Appeals and Interferences makes clear that the Examiner bears the burden of establishing "why the skilled artisan would not understand the metes and bounds" of a claim term in light of the definition provided by the specification. *See Ex Parte Hicks and Brookhart, Id.* at page 9. In *Ex Parte Hicks*, the Examiner had rejected certain claims under 35 U.S.C. §112, second paragraph, as being indefinite for reciting the term "substituted" in the absence of the specific moieties intended for substitution:

Claims 23-26 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that appellant regards as the invention.

According to the Examiner:

The term "substituted" as in "substituted hydrocarbyl" in claims 23 and 24 renders the claims indefinite as in the absence of the specific moieties intended to effectuate modification by "substitution" or attachment to the chemical core claimed, the term "substituted" renders the claims in which it appears indefinite in all occurrences wherein applicant fails to articulate by chemical name, structural formula or sufficiently distinct functional language, the particular moieties applicant regards as those which will facilitate substitution, requisite to identifying the composition of matter claimed. The phrase "taken together may form a ring" in claims 23 and 24 renders the claims indefinite as it is unclear what type of ring is formed, i.e. a carbocyclic ring, a heterocyclic ring, an

aromatic ring, etc. It is also indefinite as it is unclear what atoms are involved and how the ring is formed.

(Answer 8.)

See *Ex Parte Hicks and Brookhart*, *Id.* at page 8. The Board reiterated that:

"The test for definiteness is whether one skilled in the art would understand the bounds of the claim when read in light of the specification." *Miles Laboratories, Inc. v. Shandon, Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993). Claims are in compliance with 35 U.S.C. 5 1 12, second paragraph, if "the claims, read in light of the specification, reasonably apprise those skilled in the art and are as precise as the subject matter permits." *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1385 (Fed. Cir. 1987).

See *Ex Parte Hicks and Brookhart*, *Id.* at page 8. The Board then found that the term "substituted hydrocarbyl" was defined in the specification, and the rejection was reversed:

As to "substituted hydrocarbyl", the Specification defines that term as

a hydrocarbyl group that contains one or more substituent groups which are inert under the process conditions to which the compound containing these groups is subjected. The substituent groups also do not substantially interfere with the process. If not otherwise stated, it is preferred that substituted hydrocarbyl groups herein contain 1 to about 30 carbon atoms. Included in the meaning of "substituted" are heteroaromatic rings. When a heteroaromatic ring is present, it may be attached to another group through the heteroatom. In substituted hydrocarbyl all of the hydrogens may be substituted, as in trifluoromethyl.  
(Specification 6.)

The Examiner, however, has not established why the skilled artisan would not understand the metes and bounds of "substituted hydrocarbyl" in light of the definition provided by the Specification. As to the phrase "taken together to form a ring," we agree with Appellants that one skilled in the art would understand that it is immaterial what type of ring is formed, so long as it would not adversely affect the catalytic properties of the claimed compound (Br. 11.) Thus, the Examiner has not met the burden of establishing that one skilled in the art would not understand the metes and bounds of the objected to terms, and the rejection is reversed.

See *Ex Parte Hicks and Brookhart*, *Id.* at page 9.



Representative substitutions contemplated by the current claims are disclosed in the specification at, for example, paragraphs [0038], [0042], [0043], [0044], Fig. 1, Fig.3 and Fig. 5. Accordingly, the term “substituted” can be given reasonable meaning. *See Datamize, LLC v. Plumtree Software, Inc., Id.* Thus, Applicants respectfully submit that one skilled in the art would understand what is claimed. The law requires no more. *See Shatterproof Glass Corp. v. Libbey-Owens Ford Co., Id.*

Furthermore, the Examiner “has not established why the skilled artisan would not understand the metes and bounds of” the term ‘substituted’ “in light of the definition provided by the Specification.” *See Ex Parte Hicks and Brookhart, Id.* at page 9. Accordingly, Applicants respectfully request withdrawal of the rejection.

Regarding the heterocyclic functionalities contemplated by the present claims, the Examiner asserts that:

Regarding the term ‘heterocyclic,’ Applicants point to paragraph 42 of the specification. However, the definition does not say how many atoms make up the ring, which atoms (beyond the ‘typically oxygen, nitrogen, sulfur and or phosphorous’), how many heteroatoms are present and how many ring(s) are intended.

*See* Office Action dated January 16, 2009, at page 3, lines 3-6. Applicants respectfully submit that the Examiner has failed to establish that the skilled artisan would not understand the metes and bounds of the claims as currently amended in view of the specification. *See Ex Parte Hicks and Brookhart, Id.* at page 9. Indeed, the term “heterocyclic” is defined with great detail in the specification. *See* for example paragraph [0042]:

‘Heterocyclic’ refers to saturated or unsaturated cyclical moieties containing carbon atoms in the ring and additionally one or more hetero atoms, which are typically oxygen, nitrogen, sulfur and or phosphorus, such as pyridinyl, piperidinyl, pyrrolidinyl, morpholinyl, pyranyl, thienyl, furyl, thiazolyl, and fused-ring moieties such as benzoxazolyl, benzthiazolyl, etc. These may be optionally substituted with one or more substituents such as halogen, hydroxy, optionally substituted lower alkyl and optionally substituted lower alkoxy. Heterocyclic groups include heteroaromatic groups, and heteroaliphatic groups. Heteroaromatic groups are analogous to aromatic groups and include, for example, pyridyl, pyrimidinyl, pyrazolyl, pyrazinyl, thiazinyl, thienyl, furyl, imidazolyl, pyrrolyl, benzoxazolyl, benzthiazolyl, quinolyl, etc. Heteroaliphatic groups are saturated or partially unsaturated, and include, for example, pyrrolidinyl, morpholinyl, pyranyl, etc.

Furthermore, the MPEP makes clear that “the fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph.” See MPEP §2173.05(b). Applicants respectfully submit that the skilled artisan would recognize the metes and bounds of the term “heterocyclic.” Accordingly, Applicants respectfully request withdrawal of the rejection.

Regarding the definition of  $R^2$ , the Examiner asserts that:

In the definition of  $R^2$ , ‘carboxylic ester’ and ‘carboxamide’ are listed as substituents. However, these are compounds and do not have points of attachment. A clarification is required.

See Office Action dated January 16, 2009, at page 3. In order to provide the clarification requested by the Examiner, Applicants respectfully submit that the terms “carboxylic ester” and “carboxamide,” as recited in claim 3, are functional group names:

$R^2$  is hydrogen or a group having the formula  $(CH_2)_nR_b$  wherein  $b$  is 0 or an integer from 1 to 3 and  $R_b$  is an aromatic, heterocyclic or cyclical aliphatic group optionally substituted with one or more groups selected from lower alkyl, halogen, substituted alkyl, nitro, alkoxy, phenoxy, sulfonamido, carboxylic ester, or carboxamide (*emphasis added*).

See claim 3. Specifically, the term “carboxylic ester” refers to a  $-C(O)O-$  group wherein a substituent is bonded to either the monovalent carbon or monovalent oxygen, and the remaining monovalency is filled with a bond to  $R_b$ .

Similarly, the term “carboxamide” refers to a  $-C(O)NH-$  group wherein a substituent is bonded to either the monovalent carbon or monovalent nitrogen, and the remaining monovalency is filled with a bond to  $R_b$ . Thus, in the context of claim 3, the term “carboxylic ester” and “carboxamide” are functional group names, having defined points of attachment. Although the term “carboxylic ester” and “carboxamide” may additionally refer to compounds, one of skill would immediately recognize that in light of Applicants’ specification and the context in which the terms are used in the claims, these terms refer to functional group names. Accordingly, Applicants respectfully request withdrawal of the current rejection.

The Examiner further asserts that:

Similarly, in  $R^5$  ‘alkyl- or aryl-substituted ether thioester, or amine’ is present. These, again are compounds.

See Office Action dated January 16, 2009, at page 3. In order to clarify these terms, Applicants respectfully submit that the terms 'alkyl- or aryl-substituted ether, thioester, or amine' refer to -O-alkyl, -S-alkyl, -NH-alkyl, or -O-aryl, -S-aryl and -NH-aryl, respectively. Accordingly, Applicants respectfully request withdrawal of the current rejection.

Finally, the Examiner asserts that claim 62 (properly claim 63) depends from itself. See Office Action dated January 16, 2009, at page 3. In view of the corrected numbering of claims set forth herein, this rejection is moot, and Applicants respectfully request withdrawal of the rejection.

#### **IV. REFERENCE TO 4-AMINO-7-CYCLOPENTYL-5-(4-PHENOXYPHENYL)-7H-PYRROLO[2,3-D]PYRIMIDINE-6-CARBONITRILE**

The Examiner has requested information regarding 4-amino-7-cyclopentyl-5-(4-phenoxyphenyl)-7H-pyrrolo[2,3-d]pyrimidine-6-carbonitrile. See Office Action dated January 16, 2009, at page 3. This compound was disclosed in the specification with an accompanying literature reference to Burchat *et al.*, *Bioorg. & Med. Chem. Lett.* **10**:2171 (2000). See specification at [0051]. This literature reference is of record. See Information Disclosure Statement submitted August 9, 2006, at reference "AK."

#### **V. REJECTION OF CLAIMS 47, 51-54, 58 AND 60-62 UNDER 35 U.S.C. §112, FIRST PARAGRAPH – ENABLEMENT**

Claims 47, 51-54, 59 (claim 58 in the Office Action) and claims 61-63 (claims 60-62 in the Office Action) stand rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the enablement requirement. With respect to the claims as currently presented, Applicants respectfully traverse the rejection.

##### **A. The Law Regarding Enablement**

The Examiner bears the initial burden of presenting a *prima facie* case of unpatentability:

In order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. In re Wright, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). A specification disclosure which contains a teaching of the manner

and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

See MPEP §2164.04.

The proper standard for determining compliance with the enablement requirement is whether the specification provides sufficient information to permit one skilled in the art to make and use the claimed invention. See *United States v. Teletronics, Inc.*, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). The test of enablement is not whether experimentation is necessary, but rather whether any experimentation that is necessary is undue. A considerable amount of experimentation is permitted, provided that it is merely routine, or provided that the specification provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed. *In re Wands*, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). See MPEP §2164.01.

Furthermore, enablement does not require the inventor to submit an exact blueprint or recipe to practice the invention; thus, experimentation is allowed. See *In re Angstadt*, 190 USPQ 214 (CCPA 1976). Rather, the determination of what constitutes undue experimentation relies on the Wands factors: (1) the quantity of experimentation necessary (time and expense); (2) the amount of direction or guidance presented; (3) presence or absence of a working example; (4) nature of the invention; (5) the state of the prior art; (6) the relative skills of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. See *In re Wands*, *Id.* See also MPEP §2164.01(a) for a discussion of the Wands factors.

Applicants respectfully remind the Examiner that the MPEP instructs that

It is improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors while ignoring one or more of the others. The examiner's analysis must consider all the evidence related to each of these factors, and any conclusion of nonenablement must be based on the evidence as a whole. 858 F.2d at 737, 740, 8 USPQ2d at 1404, 1407.

A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one

skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993).

See MPEP §2164.01(a). Furthermore, the MPEP instructs that:

As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied. In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). Failure to disclose other methods by which the claimed invention may be made does not render a claim invalid under 35 U.S.C. 112. Spectra-Physics, Inc. v. Coherent, Inc., 827 F.2d 1524, 1533, 3 USPQ2d 1737, 1743 (Fed. Cir.), cert. denied, 484 U.S. 954 (1987).

See MPEP §2164.01(b). Furthermore, the MPEP instructs that claims must be analyzed as a whole in evaluating enablement:

All questions of enablement are evaluated against the claimed subject matter. The focus of the examination inquiry is whether everything within the scope of the claim is enabled. Accordingly, the first analytical step requires that the examiner determine exactly what subject matter is encompassed by the claims. See, e.g., AK Steel Corp. v. Sollac, 344 F.3d 1234, 1244, 68 USPQ2d 1280, 1287 (Fed. Cir. 2003)(When a range is claimed, there must be reasonable enablement of the scope of the range. Here, the claims at issue encompassed amounts of silicon as high as 10% by weight, however the specification included statements clearly and strongly warning that a silicon content above 0.5% by weight in an aluminum coating causes coating problems. Such statements indicate that higher amounts will not work in the claimed invention.). The examiner should determine what each claim recites and what the subject matter is when the claim is considered as a whole, not when its parts are analyzed individually (*emphasis in original*).

See MPEP §2164.08.

#### **B. The Rejected Claims as Currently Presented Are Fully Enabled**

Applicants respectfully submit that the Examiner has failed to meet the initial burden of providing a *prima facie* case for unpatentability for the currently rejected claims. See MPEP §2164.04. Specifically, the Examiner has failed to state a “reasonable basis to question the enablement provided for the claimed invention.” See MPEP §2164.01. The Examiner has put forth no reason that one of ordinary skill in the art could not practice the claimed invention in

view of the specification. Accordingly, in the event that the following remarks are not persuasive in removing the current rejection, Applicants respectfully request that a detailed analysis of the factors supporting the enablement rejection be forwarded in a subsequent non-final Office Action, as required by the law. *See* MPEP §2164.01(a).

In the current rejection, the Examiner incorporates by reference and reiterates the previous rejection of claims 47-49, 51-57 and 59-63 under 35 U.S.C. §112, first paragraph, contained in the Office Action dated May 2, 2008. Specifically, the Examiner asserts that:

The how to use portion of the statute has not been addressed. This means that Applicants must teach the skilled practitioner, in this case a physician, how to treat a given subject. The physician clearly must know what disease and what symptoms are to be treated. In this case, Applicants have not provided what is being treated by the claims, who the subject is, how one can identify said subject (i.e., how one can identify a subject in need), given no specific dose, given no specific dosing regimen, given no specific route of administration, and do not specify what diseases or symptom they intend to treat.

*See* Office Action dated May 2, 2008, at pages 9-10.

In response to the previous rejection, Applicants argued that both therapeutic and non-therapeutic uses in the claims are enabled:

Applicant submits that insofar as the claims cover non-therapeutic uses of the compounds in inhibiting kinases, sufficient information is presented to enable the use of the compounds in laboratory procedures involving inhibition of kinases. Insofar as therapeutic use of the compounds is concerned, the specific information the examiner considers necessary is far in excess of what in fact is needed to enable those skilled in the art to use the compounds. Those skilled in the art are aware of the need for kinase inhibition as discussed in the introductory portion of this application, and the conditions that would benefit from such inhibition. Sufficient information is presented in this application to enable those skilled in the art to readily ascertain, with simple tests, what amount or dose of what compound, would be effective in inhibiting a kinase activity in a given situation. Furthermore those skilled in the art to which the invention is directed, are not the practicing physicians who are to prescribe a specific treatment but the pharmaceutical manufacturers and their personnel who would manufacture and obtain regulatory approval for the use of the claimed compounds to treat diseases, and who then would issue directions for their use, with appropriate dosages. These institutions and individuals would readily be able to ascertain which conditions

involving the need for kinase inhibition would be treated by which compounds herein, and at which dosages.

See Response dated October 15, 2008, to Office Action dated May 2, 2008, at page 12.

However, the Examiner in the current rejection appears to continue to argue for the proposition that there are no non-treatment utilities for the claimed methods:

Applicants point to the introductory portion of the application. However, self-study of a compound is not a utility and Applicants need to state which disease and/or symptoms are to be treated.

See Office Action dated January 16, 2009, at page 4.

In contrast, Applicants respectfully assert that the rejected claims contemplate far more than mere “self-study.” *Ibid*. Specifically, the rejected claims as currently amended are generally directed to methods of inhibiting a protein kinase (claim 47), imparting to a protein kinase the capability of being inhibited by a claimed compound (claims 51 and 52), inhibiting various cellular properties by contacting a cell with a claimed compound (claims 53, 54 and 59 as currently numbered), and compositions comprising a claimed compound (claims 61-63 as currently numbered). Enabling support for the claimed subject matter may be found throughout the specification. For example, the specification provides exemplary assays. See for example paragraphs [0136] to [0148]. The specification further discloses specific guidance regarding choice of the target protein kinases, which macromolecules must have a cysteine in the ATP binding site, identification of which is routine by current methods of computer based structural alignment and molecular modeling. See for example paragraphs [0008], [0009], [0012], [0013], [0024]-[0026], [0029], [0030], [0036], [0088], [0089], [0091] and [0093]-[0097]. The specification discloses specific examples of protein kinases contemplated in the practice of the current invention. See for example paragraph [0004], [0013], [0025]-[0030], [0036] and [0097]. The specification discloses multiple working examples of the claimed methods. See for example paragraphs [0123]-[0148], Fig. 2, Fig. 4 and Figs. 6-8. Furthermore, the specification discloses the use of formulations and compositions comprising a claimed compound. See for example paragraph [0066]-[0079].

Accordingly, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case for unpatentability. Furthermore, in view of the ample description, including compounds and methods, of the present invention, Applicants respectfully submit that the claims

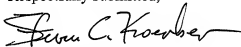
are enabled for the full scope of the claims as presently amended. Accordingly, Applicants request withdrawal of the present rejection.

#### CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-350-6100.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steven C. Koerber", with a stylized flourish at the end.

Steven C. Koerber, Ph.D.  
Reg. No. 54,233

TOWNSEND and TOWNSEND and CREW LLP  
Two Embarcadero Center, Eighth Floor  
San Francisco, California 94111-3834  
Tel: 858-350-6100  
Fax: 415-576-0300  
S6K:s6k